



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No.: **PENN-0832**

Inventors: **Muzykantov et al.**

Serial No.: **10/611,723**

Filing Date: **July 1, 2003**

Examiner: **Not Yet Assigned**

Group Art Unit: **1651**

Title: **Compositions and Methods for Selective Dissolution of Nascent Intravascular Blood Clots**

I, Kathleen A. Tyrrell, Registration No. 38,350,  
certify that this correspondence is being deposited  
with the U.S. Postal Service as First Class mail in  
an envelope addressed to the Commissioner for Patents  
P.O. Box 1450, Alexandria, VA 22313-1450

On this date: November 26, 2003

Kathleen A. Tyrrell  
Kathleen A. Tyrrell, Registration No. 38,350

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**INFORMATION DISCLOSURE STATEMENT**

Pursuant to 37 C.F.R. §1.56 and in accordance with 37 C.F.R.  
§§1.97-1.98, information relating to the above-identified  
application is hereby disclosed. Inclusion of information in  
this statement is not to be construed as an admission that this  
information is material as that term is defined in 37 C.F.R.  
§1.56(b).

(XX) In accordance with §1.97(b), since this Information  
Disclosure Statement is being filed either within three  
months of the filing date of the above-identified

application, within three months of the date of entry into the national stage of the above identified application as set forth in §1.491, or before the mailing date of a first Office Action on the merits of the above-identified application, no additional fee is required.

( ) In accordance with §1.97(c), this Information Disclosure Statement is being filed after the period set forth in §1.97(b) above but before the mailing date of either a Final Action under §1.113 or a Notice of Allowance under §1.311; therefore:

( ) Certification in Accordance with §1.97(e) is attached hereto; or

( ) The fee of \$180.00 as set forth in §1.17(p) is attached.

( ) In accordance with §1.97(d), this Information Disclosure Statement is being filed after the mailing date of either a Final Action under §1.113 or a Notice of Allowance under §1.311 but before the payment of the Issue Fee, therefore included are: Certification in Accordance with §1.97(e); Petition Requesting Consideration of the Information Disclosure Statement; and the fee of \$130.00 as set forth in §1.17(I)(1).

(xx) Copies of each of the references listed on the attached Form PTO-1449 (modified) are enclosed herewith.

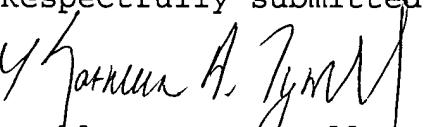
( ) In accordance with §1.98(d), copies of some or all of the references listed on the attached Form PTO-1449 (modified) are not enclosed herewith because they were previously submitted to the U.S. Patent and Trademark Office in prior application Serial No. \_\_\_\_\_, filed \_\_\_\_\_, for which a claim for priority under 35 U.S.C. §120 has been made in the instant application.

Please charge any deficiency or credit any overpayment to Deposit Account No. 50-1619. This form is submitted in duplicate.

( ) The relevance of the listed references in a foreign language is as stated in the specification at pages @@.

(xx) All listed references are in the English language.

Respectfully submitted,

  
Kathleen A. Tyrrell  
Registration No. 38,350

Date: November 26, 2003

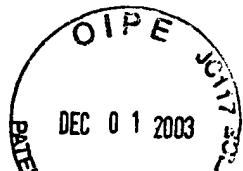
Licata & Tyrrell P.C.  
66 E. Main Street  
Marlton, New Jersey 08053

(856) 810-1515



Sheet 01 of 04

Form PTO-1449 Modified		Docket No. PENN-0832	Serial No. 10/611,723
List of Patents and Publications Cited by Applicant (Use several sheets if necessary)		Applicant <b>Muzykantov et al.</b>	
U.S. Department of Commerce		Filing Date July 1, 2003	Group 1651
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
	AA	Bdeir et al., "Urokinase mediates fibrinolysis in the pulmonary microvasculature", Blood 2000 96(5):1820-1826	
	AB	Collen D., "Towards improved thrombolytic therapy", Lancet 1993 342:34-36	
	AC	Collen et al., "Mechanisms of activation of mammalian plasma fibrinolytic systems with streptokinase and with recombinant staphylokinase", Eur. J. Biochem. 1993 216:307-314	
	AD	Fears R. and G. Poste, "Obstacles to the Development of Novel Thrombolytic Agents for Acute Myocardial Infarction Therapy: Is the Good the Enemy of the Best?", Fibrinolysis 1994 8:203-213	
	AE	Heeremans et al., "Thrombolytic Treatment with Tissue-type Plasminogen Activator (t-PA) Containing Liposomes in Rabbits: a Comparison with Free t-PA", Thromb. Haemost. 1995 73:488-494	
	AF	Holvoet et al., "Thrombolytic Profiles of Clot-Targeted Plasminogen Activators - Parameters Determining Potency and Initial and Maximal Rates", Circulation 1993 87:1007-1016	
	AG	Kalofonos et al., "Imaging of Tumor in Patients with Indium-111-Labeled Biotin and Streptavidin-Conjugated Antibodies: Preliminary Communication", J. Nucl. Med. 1990 31:1791-1796	
	AH	Kinoshita K. and T. Tsong, "Survival of sucrose-loaded erythrocytes in the circulation", Nature 1978 272:258-260	
	AI	Krishnamurti et al., "PAI-1-Resistant t-PA: Low Doses Prevent Fibrin Deposition in Rabbits With Increased PAI-Activity", Blood 1996 87:14-19	
EXAMINER		DATE CONSIDERED	



Sheet 02 of 04

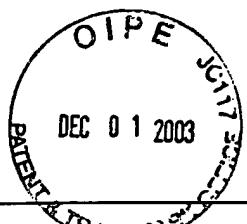
Form PTO-1449 Modified		Docket No. PENN-0832	Serial No. 10/611,723
List of Patents and Publications Cited by Applicant (Use several sheets if necessary)		Applicant <b>Muzykantov et al.</b>	
U.S. Department of Commerce		Filing Date July 1, 2003	Group 1651

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

AJ	Lijnen R. and D. Collen, "Remaining Perspectives of Mutant and Chimeric Plasminogen Activators", Ann. NY Acad. Sci. 1992 667:357-364
AK	Murciano et al., "Platelets inhibit the lysis of pulmonary microemboli", Am. J. Physiol. Lung Cell Mol. Physiol., 2002 282:L529-L539
AL	Muzykantov et al., "Targeting of enzyme immobilized on erythrocyte membrane to collagen-coated surface", FEBS Lett. 1985 182:62-66
AM	Muzykantov et al., "Directed Targeting of Immunoerythrocytes Provides Local Protection of Endothelial Cells From Damage by Hydrogen Peroxide", Am. J. Pathol. 1987 128:276-285
AN	Muzykantov et al., "Avidin-induced lysis of biotinylated erythrocytes by homologous complement via the alternative pathway depends on avidin's ability of multipoint binding with biotinylated membrane", Biochim. Biophys. Acta 1992 1107:119-125
AO	Muzykantov et al., "Fast lysis by complement and uptake by liver of avidin-carrying biotinylated erythrocytes", Int. J. Artif. Organs 1992 15(10):622-627
AP	Muzykantov et al., "Avidin acylation prevents the complement-dependent lysis of avidin-carrying erythrocytes", Biochem. J. 1991 273:393-397
AQ	Muzykantov et al., "Tannin-Mediated Attachment of Avidin Provides Complement-Resistant Immunoerythrocytes That Can Be Lysed in the Presence of Activator of Complement", Anal Biochem. 1993 208:338-342
AR	Muzykantov et al., "Immunotargeting of erythrocyte-bound streptokinase provides local lysis of a fibrin clot", Biochimica et Biophysica Acta 1986 884:335-362

**EXAMINER**

**DATE CONSIDERED**



Sheet 03 of 04

Form PTO-1449 Modified		Docket No. PENN-0832	Serial No. 10/611,723
List of Patents and Publications Cited by Applicant (Use several sheets if necessary)		Applicant <b>Muzykantov et al.</b>	
U.S. Department of Commerce		Filing Date July 1, 2003	Group 1651

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

	AS	Muzykantov et al., "Immunotargeting of antioxidant enzymes to the pulmonary endothelium", Proc. Natl. Acad. Sci. USA 1996 93:5213-5218
	AT	Narita et al., "Two Receptor Systems Are Involved in the Plasma Clearance of Tissue-type Plasminogen Activator (t-PA) In Vivo", J. Clin. Invest. 1995 96:1164-1168
	AU	Pardridge et al., "Vector-mediated delivery of a polyamide ("peptide") nucleic acid analogue through the blood-brain barrier <i>in vivo</i> ", Proc. Natl. Acad. Sci. USA 1995 92:5592-5596
	AV	Plow et al., "The cell biology of the plasminogen system", FASEB J. 1995 9:939-945
	AW	Poznansky M. and R. Juliano, "Biological Approaches to the Controlled Delivery of Drugs:A Critical Review", Pharmacol. Rev. 1984 36:277-324
	AX	Reilly et al., "Both Circulating and Clot-Bound Plasminogen Activator Inhibitor-1 Inhibit Endogenous Fibrinolysis in the Rat", Arterioscl. Thromb. 1991 11:1276-1286
	AY	Sakharov D. and D. Rijken, "Superficial Accumulation of Plasminogen During Plasma Clot Lysis", Circulation 1995 92:1883-1890
	AZ	Samokhin et al., "Red blood cell targeting to collagen-coated surfaces", FEBS 1983 154(2):257-261
	BA	Schnaper et al., "Plasminogen Activators Augment Endothelial Cell Organization In Vitro by Two Distinct Pathways", J. Cellular Physiology 1995 165:107-118

EXAMINER

DATE CONSIDERED



Sheet 04 of 04

Form PTO-1449 Modified		
List of Patents and Publications Cited by Applicant (Use several sheets if necessary)		
U.S. Department of Commerce		
Docket No. <b>PENN-0832</b>	Serial No. <b>10/611,723</b>	
Applicant <b>Muzykantov et al.</b>		
Filing Date <b>July 1, 2003</b>	Group <b>1651</b>	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
BB	Wilchek M. and E. Bayer, "The Avidin-Biotin Complex in Bioanalytical Applications", Anal. Biochem. 1988 171:1-32	
EXAMINER		DATE CONSIDERED